

**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>C12Q 1/68, C12N 15/00, 15/63, 5/06,</b> <b>C07H 21/00, 21/04, A61K 48/00</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 98/49348</b> <b>(43) International Publication Date:</b> 5 November 1998 (05.11.98)
<b>(21) International Application Number:</b> PCT/US98/08798 <b>(22) International Filing Date:</b> 30 April 1998 (30.04.98) <b>(30) Priority Data:</b> 08/847,151 30 April 1997 (30.04.97) US <b>(63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application</b> US 08/847,151 (CIP) Filed on 30 April 1997 (30.04.97) <b>(71) Applicant (for all designated States except US):</b> ISIS PHARMACEUTICALS, INC. [US/US]; 2292 Faraday Avenue, Carlsbad, CA 92008 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> DEAN, Nicholas, M. [GB/US]; 1614 Landquist Drive, Encinitas, CA 92024 (US). BENNETT, C., Frank [US/US]; 1347 Cassing Street, Carlsbad, CA 92009 (US). MONIA, Brett, P. [US/US]; 7605 Nueva Castilla Way, Carlsbad, CA 92009 (US). DRAPER, Kenneth [US/US]; 4619 Cloud Street, Boulder, CO 80301 (US). ANDERSON, Kevin, P. [US/US]; 2772 La Gran Via, Carlsbad, CA 92009 (US). BAKER, Brenda, F. [US/US];		3164 Arroyo Vista, Carlsbad, CA 92009 (US). ECKER, David, J. [US/US]; 1041 Saxony Road, Encinitas, CA 92024 (US). <b>(74) Agents:</b> CALDWELL, John, W. et al.; Woodcock Washburn Kurtz Mackiewicz & Norris LLP, 46th floor, One Liberty Place, Philadelphia, PA 19103 (US). <b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> OLIGONUCLEOTIDES FOR ENHANCED BIOAVAILABILITY		
<b>(57) Abstract</b> <p>The present invention provides compositions and methods for the alimentary delivery of oligonucleotides in an animal, including a human. Modifications to the oligonucleotide which enhance uptake following alimentary delivery are provided.</p>		